



The Management Object Model

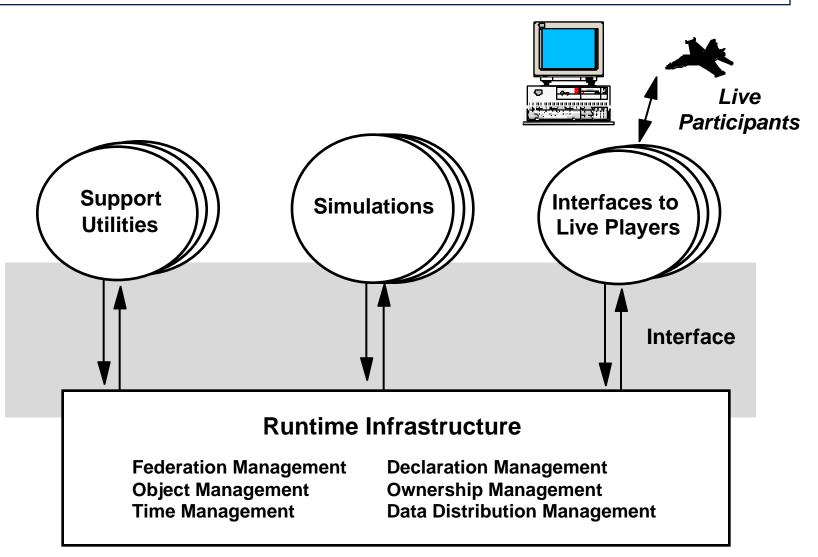
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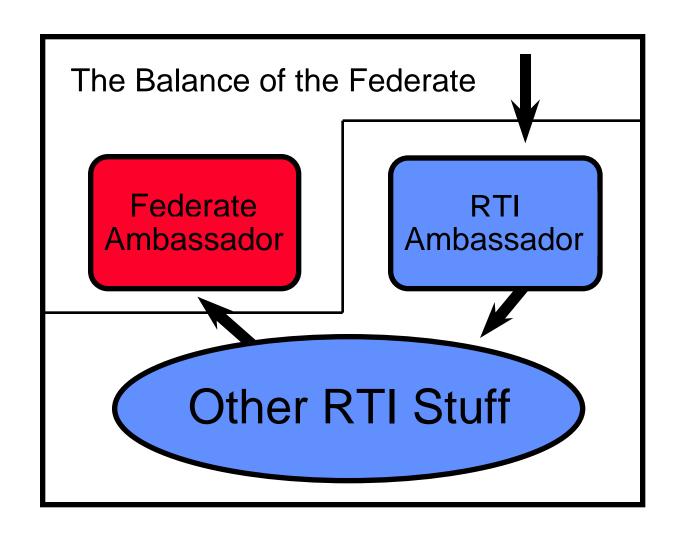
Functional View of the Architecture







Relationship Between the RTI 1.0 and a Single Federate





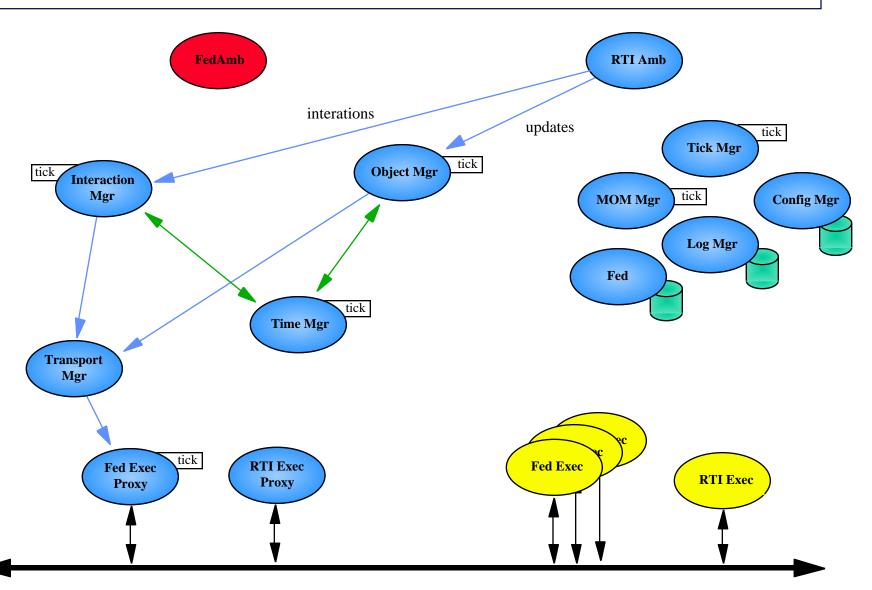


Internal View of RTI 1.0

entry point entry point **FedAmb RTI Amb** for all federate for all RTI services services main event loop publication/subscription enforcement tick class promotion and parameter reduction Tick Mgr Management tick **Object Mgr** Object Interaction tick Mgr Model **MOM Mgr Config Mgr** publication/subscription enforcement ownership management and enforcement Log Mgr class promotion and attribute reduction object discovery and removal Fed builds the message, XDR tick handles different transports Time Mgr **Transport** queues arriving messages if needed Mgr advances local time manages event retraction handles well known tick Fed Exec **RTI Exec** Fed Exec hands out RTI Exec Proxy **Proxy** interface to ACE multicast one per fed exec addresses, TCP/IP exploder fed exec names single multicast



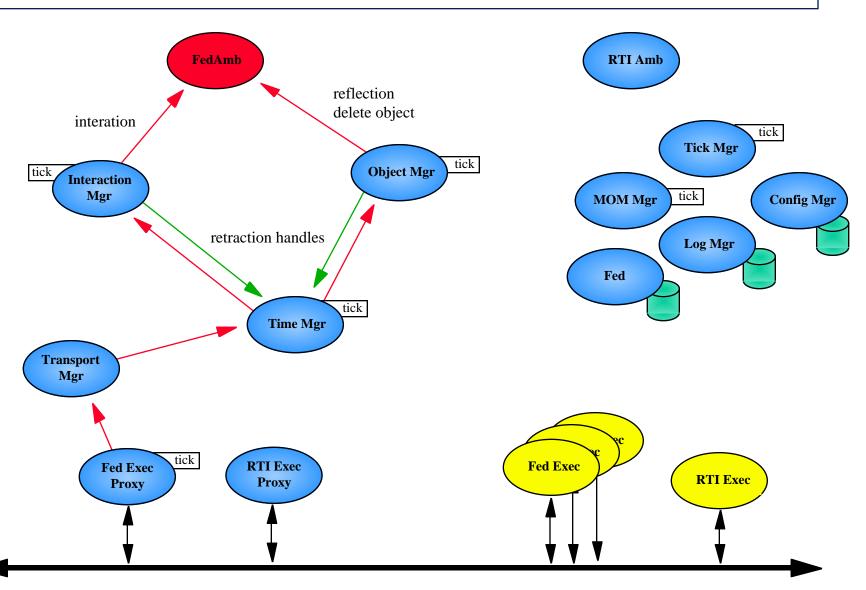
The Generation of Interactions and Updates







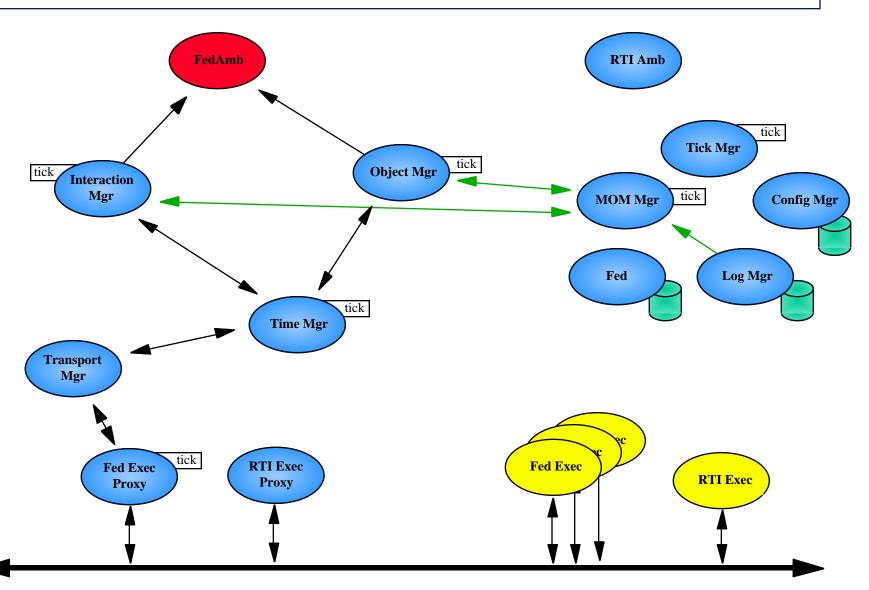
The Reception of Interactions and Updates







Role of the MOM in RTI 1.0







Basic MOM Actions

- Generate interactions when something interesting happens
- Respond to control interactions that modify the state of the RTI
- Create management objects on behalf of the federate and federation
- Update attributes of management objects in a desired way
- Respond to Request Attribute Update for management object attributes
- Allow federation designers to extend the basic MOM





Object Class Manager.Federate

```
(class Manager
 (class Federate
   (attribute FederateFederation
                                       FED_RELIABLE FED_RECEIVE)
   (attribute FederateHost
                                       FED RELIABLE FED RECEIVE)
   (attribute FederateHandle
                                       FED_RELIABLE FED_RECEIVE)
   (attribute FederateLookahead
                                       FED RELIABLE FED RECEIVE)
   (attribute FederateName
                                       FED RELIABLE FED RECEIVE)
   (attribute RTIversion
                                       FED RELIABLE FED RECEIVE)
   (attribute FederateTime
                                       FED_RELIABLE FED_RECEIVE)
   (attribute TimeConstrained
                                       FED RELIABLE FED RECEIVE)
   (attribute TimeRegulating
                                       FED_RELIABLE FED_RECEIVE)
   (attribute FIFOlength
                                       FED RELIABLE FED RECEIVE)
   (attribute TSOlength
                                       FED_RELIABLE FED_RECEIVE)
   (attribute TotalObjectCount
                                       FED RELIABLE FED RECEIVE)
   (attribute HoldingTokensObjectCount FED_RELIABLE FED_RECEIVE)
   (attribute DeletedObjectCount
                                       FED RELIABLE FED RECEIVE)
   (attribute NumAttributes
                                       FED_RELIABLE FED_RECEIVE)
   (attribute NumParameters
                                       FED_RELIABLE FED_RECEIVE)
```





Interaction Class Manager.Federate

```
(class Manager
                                             FED_RELIABLE FED_RECEIVE
(class Federate
                                             FED RELIABLE FED RECEIVE
    (parameter FromFederate)
    (class Alert
                                             FED_RELIABLE FED_RECEIVE
        (parameter AlertSeverity)
        (parameter AlertText)
        (parameter AlertID))
    (class ServiceLog
                                             FED_RELIABLE FED_RECEIVE
        (parameter ServiceName)
        (parameter ServiceInitiator))
    (class Action
                                             FED_RELIABLE FED_RECEIVE
        (parameter ToFederate)
        (class SetTiming
                                             FED_RELIABLE FED_RECEIVE
            (parameter Lookahead)
            (parameter TimeConstrained)
            (parameter TimeRegulating)
            (parameter FedReportPeriod)
            (parameter TimeReportPeriod)
            (parameter ObjectReportPeriod))
        (class SetServiceLogging
                                             FED_RELIABLE FED_RECEIVE
            (parameter SetLogging)))))))
```